



KO'OLAU MOUNTAINS
WATERSHED PARTNERSHIP

Invasive Species Control and Outreach in the Ko'olau
January 1, 2023 – March 31, 2024

2023 Final Report to:

HAWAII INVASIVE SPECIES COUNCIL

Prepared By:

KO'OLAU MOUNTAINS WATERSHED PARTNERSHIP

INTRODUCTION

The Ko'olau Mountains Watershed Partnership (KMWP) is a project of the Pacific Cooperative Studies Unit (PCSU) with the University of Hawai'i that addresses island-wide conservation issues by working with public and private conservation groups, state, municipal and federal agencies, and private landowners. KMWP's mission is to protect native forest resources in the Ko'olau Mountain range, O'ahu. The Ko'olau Mountains has one of the highest densities of rare species in the world. The area provides habitat for dozens of endangered species, many of which are endemic to the range and found nowhere else in the world.

Southern Helemano and Poamoho are areas in the northern Ko'olau Range that provide habitat for 11 animal species and 18 plant species that are vulnerable to or have a high risk of extinction. Since 2016, KMWP has worked to conduct control, monitoring, and delimiting surveys for cane ti (*Tibouchina herbacea*) in the Poamoho Forest Reserve and adjacent Kamehameha Schools lands. In 2020, a new population of mature cane ti was detected by KMWP near the summit of Poamoho at the headwaters of the Poamoho stream.

Albizia (Falcataria moluccana) is an extremely fast-growing tree species and was planted as part of the early reforestation efforts in 1917. Since that time, it has come to dominate significant portions of the urban/forest interfaces, riparian zones, agricultural land, critical infrastructure corridors and low-elevation forests on O'ahu.

Since 2019, KMWP has been the lead entity working to empower and assist communities with local level albizia control efforts by establishing and coordinating community control teams called RAD (Rapid Albizia Death).

To date KMWP works with 8 different communities across Oahu. These teams have been highly effective at reducing albizia pressure and have removed thousands of albizia that encroach into the urban and agricultural zones. At an estimated \$10,000 removal cost per hazard tree (Watson, 2017), the RAD teams have saved over \$25 Million in future removal costs. To continue to build support and provide accurate guidance, KMWP participates in a state-wide albizia working group (SWAG) and has produced a volume of educational reference materials and digital PSAs.

GOALS

The goals of this project were to:

- Reduce the impacts of invasive species in priority watersheds
- Protect water quality and supply for communities and agriculture on O‘ahu
- Improve habitat quality for at-risk species
- Increase public awareness on O‘ahu with regards to watersheds and general species information and impacts caused by invasive species.

EXPECTED OUTCOMES

1. Incipient Cane Ti Control

- 2 surveys per year completed for the upper 7 sections and 1 survey for the lower 7 sections of Paukauila Stream.
- Based on results of surveys, point and polygon maps will be produced showing the extent of the infestation.
- Thorough documentation of all *T. herbacea* treated in Poamoho will be recorded and maintained in the KMWP project database.

2. Albizia Control Teams and Outreach

- Continued coordination with active RAD teams and active engagement with interested communities.
- Continued Participation in the Statewide Albizia Working Group.
- Creation of O‘ahu-specific albizia outreach materials.
- 2-3 presentations to community groups.

Summary

1. Incipient Cane Ti Control

Two sets of surveys of the upper 7 established sections of Paukauila Stream were conducted roughly six months apart, as well as a single survey of the lower 7 established sections. These surveys were supplemented by funding from the Watershed Partnership Protection Grant (WPPG) to allow for two more sets of surveys of the same 14 sections, providing for quarterly

and biannual control operations of the top 7 and bottom 7 sections, respectively. This resulted in a cumulative survey total of 84.6 acres and the control of 139 cane ti plants (Figure 1).

The number of plants treated within the survey areas increased since 2022, but population boundaries were not seen to have expanded. This is in line with figures from the neighboring Trash Core one valley to the south (managed with funding from WPPG). Additional funding has been secured from other sources to assist with increasing pressure on regional populations in the next year to prevent population expansion in light of increased numbers of individuals identified.

2. Albizia Outreach

The Rapid Albizia Death (RAD) Hui had a significant impact during the project period, coordinating with active RAD Hui and engaging new communities to establish more RAD Hui. KMWP continued albizia control efforts with the Malama Manoa RAD Hui, conducting another stream sweep in Manoa stream (Figure 2). Albizia outreach efforts spread to different communities, including First Presbyterian Church in Kaneohe, a community group in Waiahole (Figure 3), and Saint Anthony Retreat Center in Kalihi Valley (Figure 4). In total, 5 community outreach workdays were conducted in conjunction with these groups and existing RAD communities, with 77 volunteers across these 5 workdays. KMWP also continued its participation in the Statewide Albizia Working Group meetings in October 2023 and March 2024. KMWP presented to community groups in the Kahaluu neighborhood board meeting, Waiahole Hazard Albizia Meeting, and a Manoa community presentation, engaging and educating 138 total participants on albizia awareness. In addition, outreach materials were produced in the form of a mass mailer that was distributed throughout the Palolo neighborhood (Figure 5). Work continues to expand the reach of the hui, with future efforts focusing on windward, central, and Northern Koolau communities.

KMWP HISC23 Incipient Cane Ti Control

Projection: NAD83 UTM Zone 4N
Basemap: USGS OAHU DRG
Vector Data: KMWP
Scale: 1:26,000
Map Production Date: 4/30/2024

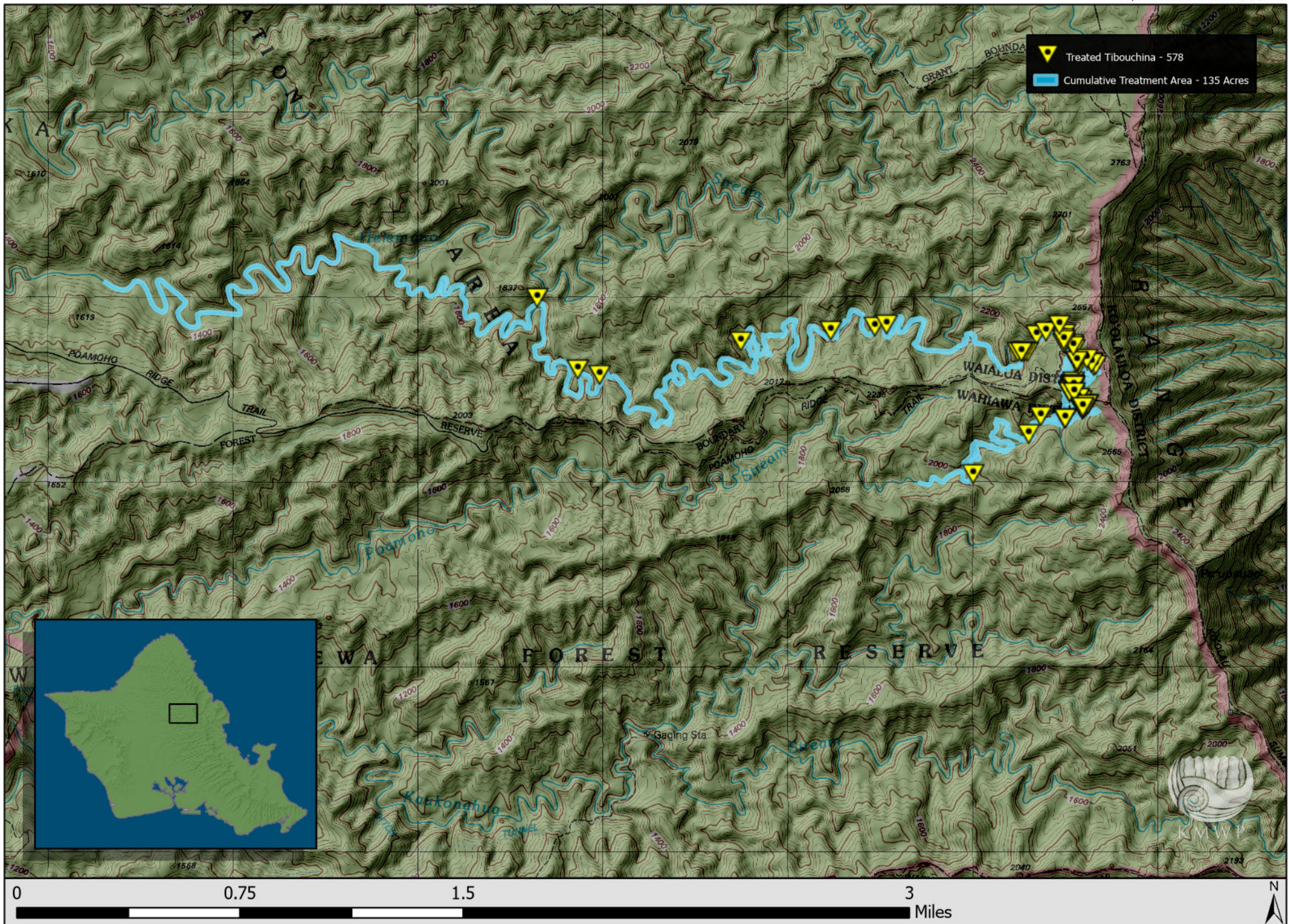


Figure 1



Figure 2. Manoa RAD hui post-stream treatment



Figure 3. Waiahole Albizia Workshop



Figure 4. Saint Anthony Retreat Center Albizia Workshop

GOT ALBIZIA?



Albizia trees pose a threat to you and your neighbors.



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**Identify, assess, and remove
Albizia before it's too late.**

Learn more at koolauwatershed.org/albizia

*****ECRWSS*****

Local Postal Customer

Early identification and removal is key to preventing infestation and property damage.

1. IDENTIFY

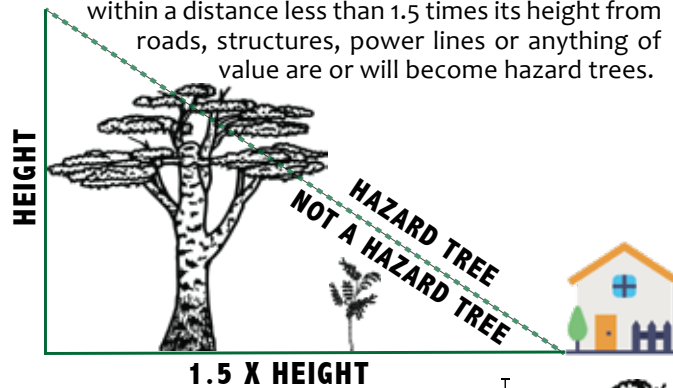


Albizia has small green leaves. Leaves form clusters at the growing tip. **These trees grow up to 15 feet per year.**



2. ASSESS

Is my tree a hazard? Albizia taller than 15 feet growing within a distance less than 1.5 times its height from roads, structures, power lines or anything of value are or will become hazard trees.

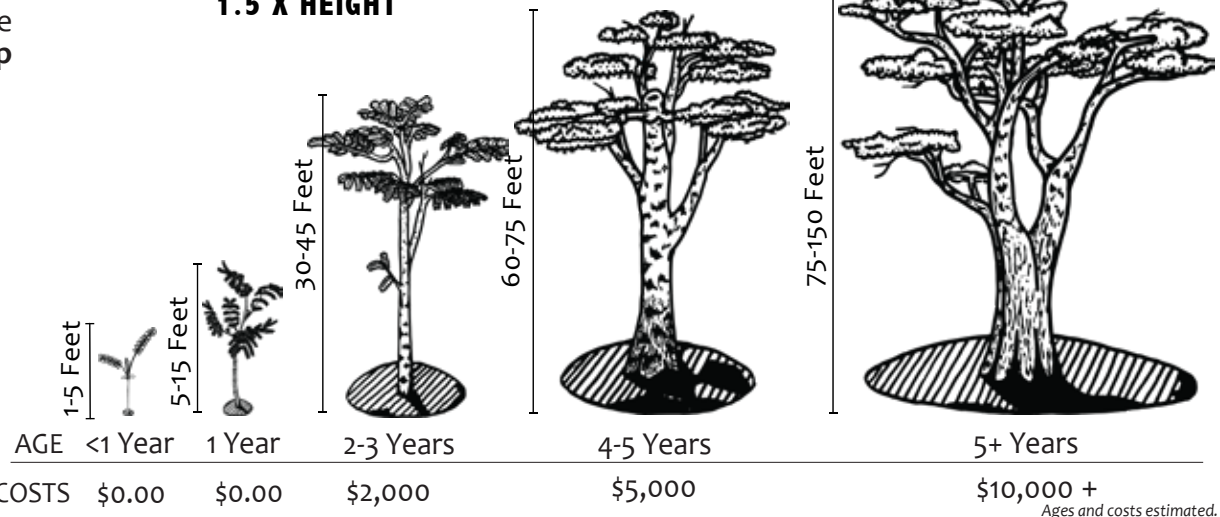


3. REMOVE

Non Hazard trees can be removed or treated with multiple cost-effective DIY strategies:

1. Hand-pull or Cut
2. Ring Barking (Bark Stripping)
3. Herbicide Application

If you want to remove a hazard tree, find a local arborist specialized in Albizia removal.



Get more information at koolauwatershed.org/albizia